



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/057,406	04/08/1998	HARALD WERENICZ	94-36-3-US-D	6379

7590

06/12/2002

HB FULLER CO
PATENT DEPARTMENT
1200 WILLOW LAKE BLVD.
P.O. BOX 64683
ST PAUL, MN 55164-0683

EXAMINER

AFTERGUT, JEFF H

ART UNIT

PAPER NUMBER

1733

52

DATE MAILED: 06/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

TC-52

Office Action Summary	Application No. 09/057,406	Applicant(s) WERENICZ ET AL.	
	Examiner Jeff H. Aftergut	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-12,33-36,38-42,44 and 46-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-12,33-36,38-42,44 and 46-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1. ☐ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) Paper No(s). <u>50</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>45</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1733

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 3-6, 8, 10-12, 33, 35, 36, 39-42, 44, and 46-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sanftleben et al in view of Boger et al for the same reasons as identified in paper no. 44, paragraph 2.
3. Claims 2-12, 33-36, 38-42, 44, 46-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over E.P. 315,013 in view of Maletsky et al '202 further taken with Smith et al and optionally further taken with Buell for the same reasons as expressed in paper no. 44, paragraph 3.
4. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 3 further taken with Waggoner or UK 688,637 for the same reasons as expressed in paper no. 44, paragraph 4.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claim 55 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 18 of U.S. Patent No. 5,827,252 in view of E.P. 315,013 for the same reasons as expressed in paper no. 44, paragraph 6.

Response to Arguments

7. Applicant's arguments filed 5-9-02 have been fully considered but they are not persuasive.

At the outset, it should be noted that applicant's representative has FAILED to provide a discussion of the substance of the interview conducted with applicant's representative on May 3, 2002. such is required in any subsequent response submitted by applicant's representative.

The applicant argues the rejection of Sanfleben et al and Boger et al and initially states that: "it is undisputed that Sanfleben et al failed to teach a method that includes suspending a continuous film of hot melt composition between a coating device and a substrate." However, Sanfleben suggested that one skilled in the art would have known to suspend the coating from a coating device such as a hot melt glue gun onto the substrate being coated, see column 10, lines 21-28, for example. While there is no indication that a film was issued from the glue gun onto the surface being coated, there nonetheless was a suspension of the coating composition from the applicator to the substrate. The reference clearly suggested application via brushing and spraying as discussed in paper no. 44. it should additionally be noted that Sanfleben suggested that the coating composition there would have been suitable for coating via extrusion coating, column 4, lines 55-60. while this does not expressly state that the composition was extruded wherein it was suspended between the die and the substrate, it clearly suggested that the compositions therein would have been suitable for brushing, spraying or extrusion. the reference failed to state that

Art Unit: 1733

one skilled in the art of conformal coatings to which Sanfleben was concerned with, would have chosen to apply the coating via a slit die wherein a film was suspended between the applicator and the substrate being coated.

Boger, applicant argues, does not cure the deficiencies of Sanfleben. The applicant initially argues that to establish obviousness based upon a proposed combination of references there must be some teaching or motivation in the prior art for making the proposed combination. It is well settled that where, as here, two equivalents are interchangeable for their desired function, an express suggestion of the desirability of the substitution of one for the other is not needed to render such substitution obvious, In re Fout, 213 USPQ 532, In re Siebentritt, 152 USPQ 618. here, one is substituting the known means for coating the substrate, i.e. spraying or brushing, with a slit die method where Boger et al clearly suggested such was a known alternative means to provide a conformal coating in the art of providing such coatings to circuit boards. Additionally, note that the use of the suspended coating was suggested in Sanfleben et al with the example of the glue gun where the adhesive material was suspended from the gun to the substrate. Note further that Sanfleben suggested that extrusion of the composition would have been a suitable coating technique used and that Boger suggested that in the slit method the moisture proof insulator was pressurized and “extruded” through a slit die. Clearly, the motivation to apply the coating of hot melt with a slit die would have been readily apparent to one of ordinary skill in the art of conformal coatings and would have been selected for its relative known advantages. Note that Boger suggested that such coating techniques had both advantages and disadvantages and one skilled in the art certainly would have been capable of selection of a suitable coating technique in order to attain the desired results.

Art Unit: 1733

The applicant argues that the prior art must also reveal a reasonable expectation of success to the skilled artisan. Here, one viewing the prior art as a whole would have reasonably expected that a slit die method of Boger which was known in the art would have operated well with the hot melt compositions of Sanfleben et al in that the reference to Sanfleben et al itself suggested that coating the hot melt from a glue gun operates well with little or no stringing of the adhesive between the glue gun and the substrate. Sanfleben in the document itself suggested that extrusion coating of the moisture proof insulating coating would have been a suitable coating technique, column 4, lines 55-60. The reference to Boger suggested that the techniques of the slit die method would have been useful in mass production operations as well as the application of wide films relative to the spraying techniques. There is no reason to believe that one would have not been able to utilize the compositions of Sanfleben in the slit die method for application of a conformal coating. The reference to Boger does acknowledge the disadvantages of the use of the slit die method which included variation in coating thickness and breakage of films, necking down or drawing in the film edges and non-uniform coating. However, the reference to Sanfleben suggested that no stringing occurred when using the glue gun and suspending the film from the applicator. Additionally, with regard to the use of various coating techniques the reference to Sanfleben suggested that extrusion would have been suitable and further suggested that the flow characteristics of the coating composition were such that the coatings would have been applied "accurately and very thin using commercially available hot melt dispensing equipment" (column 4, lines 60-65). Clearly, one would have expected that the composition of Sanfleben would have been suited to commercially available hot melt applicators (and in particular to hot melt applicators for conformal coating) and would have selected the slit die

Art Unit: 1733

method of Boger et al (and would have expected that the same would have reasonably worked in the operation). It appears one would have known of the possibility of necking or drawing of the film as well as variation in coating thickness, however when concerned with mass production of a conformal coating on a wide board, one skilled in the art would have been led to chose the slit die method of Boger to apply the coating on the substrates (note that the reference to Sanfleben appears to suggest that the flow properties of their composition is such that these problems would have been present in the process because of the flow properties of the same). The applicant argues that there is no mention of the properties of the material necessary to use the slit die method in Boger et al and thus there would have been no reasonable expectation of success. However the coating applied was a conformal coating just like that of Sanfleben. The conformal coating compositions would have been expected to have similar moisture proof properties and would have been expected to be selected from those commercially available for conformal coating. Such clearly would have included the compositions of Sanfleben. Note that Sanfleben suggested the use of commercially available coating techniques for hot melt coating via extrusion and such clearly included the use of slit die according to the techniques of Boger. Applicant's argument of a lack of an expectation of success are not persuasive in this regard.

The applicant next addresses the rejection of the claims with the combination of EP '013, either one of Maletsky et al or Miller et al, and either one of Smith et al or Thompson et al optionally further taken with Buell. The applicant takes the position that none of the prior art applied suggested a noncontact coating method, however as discussed at length below this has not been found to be persuasive. To begin with, the reference to EP '013 the applicant argues teaches the use of an application roller or a surface nozzle and that an application roller cannot

Art Unit: 1733

be useful unless it is in contact with the nonwoven web being coated. The applicant argues that EP '013 therefore teaches contact coating. The applicant additionally noted that the reference did not express what was meant by "surface nozzle" and that there is no teaching in the reference of a film being extruded from a surface nozzle. While it is correct that the reference to EP '013 never expressed that a film issued from the surface nozzle therein, the reference clearly suggested that dispensing of the amorphous thermoplastic adhesive composition would have included deposition with a surface nozzle such as the type depicted in Figure 3 as an alternative to roller application. The applicant is advised that the article being manufactured by EP '013 was a disposable diaper and that the layer applied was for the backsheet of the diaper and was attached to the nonwoven layer of the diaper in line. The ordinary artisan concerned with disposable diaper would have understood that such a thin backsheet coating would have been applied in order to provide vapor permeability as well as liquid impermeability. In order to be liquid impermeable, the coating would necessarily have had to be a continuous pinhole free coating. As such one viewing the reference as a whole would have expected that a continuous film would have been applied upon the nonwoven with the surface nozzle in EP '013.

The applicant argues that Maletsky taught that the coating was capable of direct coating upon nonwoven and cites column 4, lines 38-40 of the reference to support their position. The applicant is advised that while the reference stated that the coating was in fact a direct coating upon the nonwoven, there is no mention of whether such a direct coating method included contact coating or non-contact coating. Direct coating (from the applicator to the surface) could be either contact or non-contact coating the reference does not express any more regarding what is meant by direct coating at column 4, lines 38-40 in the reference. The reference did, however

Art Unit: 1733

expressly state that extrusion would have been a suitable technique for application of the coating compositions therein. The applicant is referred to the examples therein wherein the direct coating of the nonwoven included extrusion of the coating upon the nonwoven. The coatings employed in Maletsky included amorphous thermoplastics therein including polypropylene. Note that EP '013 employed amorphous thermoplastic coating therein. The reference to Buell (discussed in detail below) suggested that if the extruder die was in contact with the nonwoven one skilled in the art would have attained a discontinuous coating (which is contrary to what was desired by EP '013 or Maletsky for example). One therefore would have understood that the coating techniques employed in Maletsky when using an extruder would have been those which were non-contact coating. It is agreed that it is undisputed that Buell failed to teach non-contact coating, in fact the purpose of Buell in the rejection was to support the conclusion that the coating techniques of EP '013 and Maletsky would have been non-contact coating techniques because if contact was provided between a nozzle exit of an extruder die and a nonwoven one would have attained a thin discontinuous coating of the adhesive as the fibers of the nonwoven broke up the coating as evidenced by Buell.

The applicant argues that Smith or Thompson do not cure the deficiencies of EP '013 Maletsky or Buell, and suggested that the references were limited to polyethylene and olefin polymers and copolymers which were extruded through a slit die and disclosed numerous disadvantages to the slit die operation. To overcome these problems, the reference to Smith and Thompson suggested one would have used a particular random copolymer of ethylene and acrylic acid. The applicant argues that the composition of Maletsky is nothing like that of Smith or Thompson. These arguments are respectfully traversed. To begin with, the references to Smith

Art Unit: 1733

was applied to show what were known techniques for application of hot melt coatings and how the same were applied. The reference was not relied upon to show hot melt coating with the specific random copolymer of ethylene and acrylic acid but rather to show that one utilizing an extruder to provide a thin continuous coating would have done the same with a slit die in a contacting fashion. The reference to Smith clearly suggested that coating with olefin polymers and copolymers (like the amorphous thermoplastics of Maletsky and EP '013) upon substrates was desirable and is practiced upon on a large scale basis by a so-called hot melt extrusion process which included non-contact coating, column 1, lines 26-34. clearly, the reference is not limited to specific compositions when describing what was known in the art at the time the invention was made but rather encompassed the use of the materials described by Maletsky and EP '013 in the operation of coating a substrate with these olefin polymers. The reference additionally suggested that good adhesion between the coating and the substrate was attainable by controlling the operating temperatures that the extrusion was applied. The reference suggested such does not work well with certain random copolymer of ethylene and acrylic acid, however, there is no mention of the inability to coat a surface with the olefin polymers of the prior art described therein. One viewing the reference as a whole to Smith would have been led to understand that hot melt extrusion coatings were known per se and would have been practiced to apply the coatings of EP '013 and Maletsky through the surface nozzle or extruders therein. One would have reasonably expected success with non-contact coating as Buell clearly showed that contact coating would have resulted in application of a discontinuous film. One therefore would have avoided contact coating the film upon the nonwoven substrate.

Art Unit: 1733

The references to Miller and Thompson have been removed from the prior art rejection as set forth in paper no. 44. It would appear that Thompson suggested a more specific hot melt operation which in reference to the prior art operation involved the use of polyethylene and the reference is not generic to olefin polymers as Smith was. The reference to Miller recited a composition which was not an olefin composition but rather was based upon polyester resin therein and as such it has been withdrawn from the prior art rejection.

The applicant takes the position that Buell adds little or nothing to the prior art rejection, however Buell clearly suggested that the application of a film from an extruder in contact with the nonwoven during the coating operation would have resulted in a discontinuous film. As noted above the reference to EP '013 did not desire a discontinuous coating for the film. Clearly, one would have expected that contact coating the nonwoven according to the processing in EP '013 with the surface nozzle would have resulted in a discontinuous coating as the nonwoven fibers would have broken up the film in the coating operation as such took place in Buell. Thus, one would have recognized that the surface nozzle was in fact non-contacting the surface of the nonwoven in processing as otherwise a discontinuous coating would have been attained. As noted above, a discontinuous coating in EP '013 would not have met the requirements of the reference as a discontinuous coating would have been liquid permeable which was undesirable in EP '013.

Regarding Waggoner or UK '637, the applicant argues that these references do not cure the deficiencies of the other references. The applicant does not address the merits of the references specifically for what they were applied to teach and therefore it is believed that applicant agrees with the Office interpretation of these references. The applicant is advised that

Art Unit: 1733

because there are no deficiencies in the basic rejection that this rejection stands for the same reasons as previously presented.

The applicant argues the double patenting rejection and states that the references failed to teach the step of “suspending a continuous film such that the film builds in viscosity and cohesive strength such that any fibers of a nonwoven substrate do not penetrate the continuous film”, however the reference to Werenicz ‘252 taught the use of the same composition for the film in the claim. Additionally the film of the claim was stated to form a body fluid permeable barrier layer in the article and one skilled in the art would have perceived that such a barrier layer would have been a continuous and pinhole free film. Note that EP ‘013 desired water impermeability in the films therein and as such suggested continuous and pinhole free films be applied to the nonwovens. Because the prior art suggested performing the same steps upon the nonwoven web to coat the same with a continuous and pinhole free film, one practicing the operation of Werenicz ‘252 would have expected that the film in suspension therein would have developed viscosity and cohesive strength to prevent penetration of the fibers of the nonwoven therein. Additionally, note that the same would appear to be an intrinsic property of the plastic material being dispensed from the die and as such was clearly within the scope of Werenicz ‘252.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

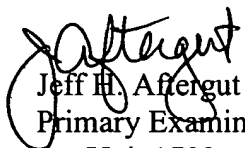
Art Unit: 1733

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 703-308-2069. The examiner can normally be reached on Monday-Friday 6:30-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael W. Ball can be reached on 703-308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Jeff H. Aftergut
Primary Examiner
Art Unit 1733

JHA
June 11, 2002